

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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U.S. PATENT AND TRADEMARK OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte GEOFFREY R. MORRIS

Appeal No. 2006-0035  
Application No. 09/674,256

ON BRIEF

Before KIMLIN, OWENS and PAWLIKOWSKI, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-5, 9, 10 and 16. The examiner has withdrawn the rejection of claims 12, 14 and 15.<sup>1</sup> Claim 1 is illustrative:

1. A heat exchange assembly including:

an internal passageway formed between a pair of spaced substantially parallel internal sheets,

<sup>1</sup> See page 4 of the Examiner's Answer.

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respective external passageways formed between each said internal sheet and a respective external sheet spaced from and substantially parallel to a respective internal sheet;

said pair of internal sheets at the ends of said internal passageway extending beyond said external sheets at the ends of said external passageways thereby facilitating fusion welding to said internal sheets at the ends of said internal passageway, and said internal passageway or said external passageways being adapted to receive or contain a gas for effecting heat exchange with a fluid in the other of said internal passageway or said external passageways; and

said pair of internal sheets and said external sheets each coupled to, and said internal and external passageways in fluid communication with, at least one manifold.

The examiner relies upon the following references in the rejection of the appealed claims:

Saperstein et al. (Saperstein)	5,242,015	Sep. 7, 1993
Kennon	6,173,767	Jan. 16, 2001 (filed Oct. 11, 1996)
Morris (Australian Patent Abridgment)	AU-8-68020/98	Sep. 3, 1998
Ube (JP '084) (Japanese Kokai Patent Specification)	S61-202084	Sep. 6, 1986

Appellant's claimed invention is directed to a heat exchange assembly comprising an internal passageway formed between a pair of parallel internal sheets, and external passageways formed between each of the internal sheets and a corresponding external sheet. The heat exchange assembly may be used as a roofing panel.

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Claims 1-5 and 16 stand rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being unpatentable over Saperstein. Claims 1-5 and 16 also stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Saperstein in view of JP '084. Also, claims 9 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Saperstein, or the combination of Saperstein and JP '084, further in view of Kennon.

In accordance with the grouping of claims set forth by appellant, claims 2-5, 9 and 10 stand or fall together with claim 1 (see page 4 of principal brief).

We have thoroughly reviewed each of appellant's arguments for patentability. We find, however, that the examiner's rejections are well-founded and supported by the prior art evidence relied upon. Accordingly, we will sustain the examiner's rejections for essentially those reasons expressed in the Answer.

We consider first the examiner's § 102/§ 103 rejection of claims 1-5 and 16 over Saperstein. There is apparently no dispute that Saperstein, like appellant, discloses a heat exchange assembly comprising an internal passageway formed between a pair of substantially parallel internal sheets, and

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external passageways formed between each of the internal sheets and corresponding external sheets that are substantially parallel to the internal sheet. Appellant also does not contest the examiner's factual determination that the internal sheets of Saperstein extend beyond the external sheets at the ends of the external passageways. Nor does appellant dispute the examiner's factual finding that Saperstein's pair of internal sheets and external sheets are coupled to at least one manifold.

It is appellant's principal contention that the coiled configuration of Saperstein's heat exchange assembly does not meet the requirement for the presently claimed internal and external sheets. Appellant contends that the claimed "sheet" should be interpreted, when read in light of the present specification, as being flat. Appellant's Reply Briefs gives ten dictionary definitions for the word "sheet," and nine of the ten include the adjective "flat" in the definition.

We do not find appellant's arguments persuasive because we concur with the examiner that the heat exchange assembly of Saperstein, before undergoing the coiling step, comprises flat internal and external sheets. Appellant did not address this rationale of the examiner in the principal brief, but sets forth in the Reply Brief that "extrusions may be, or may not be, flat

depending upon the material being extruded, and the method used to create the extrusion" (page 10 of Reply Brief, second paragraph). Appellant maintains that he "does not know how the hose of Saperstein was created, but notes that hoses are typically a plastic disposed on a web of fabric . . . [and that] such extruded hoses are known to curl following extrusion and that such hoses may be cooled on a drum, that is, in a non-flat configuration" (id.).

We are not convinced by appellant's argument. First, Saperstein does not describe the heat exchange assembly as a hose. Furthermore, Saperstein discloses that the heat exchanger is made up of an elongated extrusion means that is wrapped or folded about itself (column 1, lines 52-63). Also, in response to appellant's argument that the assembly of Saperstein may be plastic disposed on a web of fabric, Saperstein specifically teaches that the extruded member is typically made of aluminum, which is then wound (column 3, lines 14 et seq.). Consequently, we are satisfied that Saperstein reasonably describes to one of ordinary skill in the art, within the meaning of § 102, elongated, flat sheets as an intermediate extrusion member that is ultimately wound into a coil. Also, we agree with the examiner that it would have been obvious to one of ordinary skill

in the art to delete the coiling step of Saperstein and employ the elongated assembly of Saperstein to conform to elongated housings, or to be used without housings at all. Manifestly, one of ordinary skill in the art would have understood that the heat exchange assembly of Saperstein need not be used in a coiled configuration. Appellant, in stating that "[f]lat panels have different heat transfer properties than a coil" (page 6 of principal brief), acknowledges that flat heat exchange assemblies were known in the art.

We also agree with the examiner that the coiled configuration of Saperstein's assembly meets the requirement of the claimed internal and external sheets. As noted by the examiner, claim language is to be given its broadest interpretation consistent with the specification, and appellant's specification does not assign any particular meaning to the term "sheet." Since not all dictionary definitions require that a sheet be flat, and appellant's specification does not define the sheets of the present invention as necessarily being flat, it follows that the appealed claims encompass parallel sheets that are both flat and curved. Appellant has had ample opportunity to claim the internal and external sheets as flat, and appellant argued during prosecution that "the heat exchange assembly can be

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of any suitable shape and configuration consistent with the above" (response of March 14, 2003, Paper No. 8, pages 7-8).

Concerning the § 103 rejection of claims 1-5 and 16 over Saperstein in view of JP '084, inasmuch as we have determined that the rejection of these claims under § 102/§ 103 over Saperstein alone is sustainable, it logically follows that we also sustain the § 103 rejection that further includes JP '084.

As for the § 103 rejection of claims 9 and 10 over the collective teachings of Saperstein, JP '084 and Kennon, we agree with the examiner that Kennon evidences the obviousness of providing the assembly of Saperstein with a pressure relief means in order to prevent an explosion during significant pressure build-up. Appellant's argument that the examiner has failed to indicate where there is a teaching, suggestion or incentive in the references which supports the combination fails to address the substance of the examiner's rejection. Nowhere does appellant set forth why one of ordinary skill in the art would have considered it nonobvious to modify the assembly of Saperstein by incorporating a pressure relief means.

As a final point, we note that appellant bases no argument upon objective evidence of nonobviousness, such as unexpected

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results, which would serve to rebut the inference of obviousness established by the prior art.

In conclusion, based on the foregoing, the examiner's decision rejecting the appealed claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv) (effective Sep. 13, 2004; 69 Fed. Reg. 49960 (Aug. 12, 2004); 1286 Off. Gaz. Pat. Office 21 (Sep. 7, 2004)).

AFFIRMED

*Edward C. Kimlin*  
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